

CLAIMS

1. A method of voice interaction with a nearby entity, comprising the steps of:
 - 5 (a) associating a group of one or more entities with a separately-hosted voice service;
 - (b) upon a user approaching near to any entity of the group, initiating provision of the voice service to that user by joining the user into a communication session established for the service and common to all users of the voice service;the voice service acting as voice proxy for said group with each user joined to the session
- 10 interacting with the service through spoken dialog and hearing at least some of the same voice-service output as all other users joined to the session.
2. A method according to claim 1, wherein the voice service selects voice input from one user at any one time in order to determine its next voice output.
- 15 3. A method according to claim 2, wherein users do not hear voice input from other users except for the voice input selected by the voice service.
4. A method according to claim 2, wherein the voice service selects the voice input from
- 20 each user currently joined to the session on a sequential basis.
5. A method according to claim 2, wherein the selected voice input is the first input received in response to a completed voice output turn by the voice service.
- 25 6. A method according to claim 2, wherein the voice service content is divided into sections each comprising at least one voice input and at least one voice output, the user providing the selected voice input being kept the same throughout the delivery of a section.
7. A method according to claim 1, wherein each user connected to the session hears voice
- 30 input from all other such users and all voice output by the service.

8. A method according to claim 1, wherein the service provides voice output specific to a particular entity of said group, this output being provided only to the users near that entity.

9. A method according to claim 1, wherein the voice service is effected by the serving of
5 voice pages in the form of text with embedded voice markup tags to a voice browser, the voice browser interpreting these pages and carrying out speech recognition of selected user voice input, text to speech conversion to generate voice output, and dialog management; the voice browser being disposed between a voice page server and an arrangement for selecting voice input from amongst the input received from all users and for distributing to
10 the users the voice output of the voice browser.

10. A method according to claim 1, wherein in step (b) the initiating of service provision is effected by the transfer of service contact data to user equipment carried by the user, the user equipment then using the contact data to contact the voice service over a wireless
15 connection.

11. A method according to claim 1, wherein in step (b) the initiating of service provision is effected by the transfer of user contact data from user equipment to a receiving device in the vicinity of the entity concerned, the user contact data being passed from the receiving
20 device to the voice service to enable the latter to contact user equipment over a wireless connection.

12. A method according to claim 1, wherein in step (b) the initiating of service provision is effected by determining the relative locations of the user and said entities and initiating the
25 voice service only when the user moves close to a said entity.

13. A method according to claim 1, wherein both voice input by a user to the service and voice output by the service to the user are effected by audio input and output means forming part of equipment carried by the user.

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14. A method according to claim 1, wherein voice input by a user to the service is effected by audio input means forming part of equipment carried by the user, and voice output by

the service to the user is effected by audio output means located in the locality of the entity concerned and separate from any equipment carried by the user.

15 15. A method according to claim 1, wherein both voice input by a user to the service and voice output by the service to the user are effected by audio input and output devices located in the locality of the entity concerned and separate from any equipment carried by the user.

10 16. A method according to claim 1, wherein voice service sound output to at least one user joined to the communication session is through multiple sound output devices controlled so that the sound appears to be originating from said local entity.

15 17. A method according to claim 1, wherein said multiple sound output devices are headphones worn by the user, the location of the voice service sound output in the audio field generated by the headphones being controlled to take account of the relative positions of the user and entity and rotations of the user's head.

20 18. A method according to claim 1, wherein said multiple sound output devices are loudspeakers associated with the locality of the entity rather than with the user and connected with the voice service through the communications infrastructure, the sound output from the loudspeakers being controlled in dependence on the relative positions of the user and entity.

25 19. A system for enabling verbal communication on behalf of a local entity with a nearby user, the system comprising:

- audio output means either forming part of equipment carried by the user, or located in the locality of the local entity;
- audio input means either forming part of equipment carried by the user, or located in the locality of the local entity;
- 30 - communication means over which signals can be transferred respectively to and from the audio output and input means;
- a voice service arrangement for providing a voice service associated with the entity

but separately hosted, the voice service arrangement being arranged to deliver the voice service by providing voice input and output signals via the communications means to the audio input and output means thereby enabling a user to interact with the voice service through spoken dialog; and

- 5 - service initiation means for initiating voice service delivery by the voice service arrangement to a user near the local entity;

the voice service arrangement including session control means for joining multiple users each near the same local entity or an entity of a group of associated entities, into a common voice-service communication session in respect of the same local entity or group of entities
10 whereby such users hear at least some of the same voice-service output.

20. A system according to claim 19, wherein the session control means is operative to select voice input from one user at any one time for use by the voice service in determining its next voice output.

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21. A system according to claim 20, wherein the session control means is operative only to pass on voice input from any user to other users when that voice input is selected for use by the voice service.

- 20 22. A system according to claim 20, wherein the session control means is operative to select voice input from each user currently joined to the session on a sequential basis.

23. A system according to claim 20, wherein the session control means is operative to take as the selected voice input the first input received in response to a completed voice output
25 turn by the voice service.

24. A system according to claim 20, wherein the voice service content is divided into sections each comprising at least one voice input and at least one voice output, the session control means being operative to keep unchanged the user providing the selected voice
30 input throughout the delivery of a section.

25. A system according to claim 19, wherein the session control means is operative to pass to each user connected to the session voice input from all other such users and all voice output by the service.

5 26. A system according to claim 19, wherein the voice service is arranged to provide voice output specific to a particular entity of said group, the session control means being operative to provide such output only to the users near that entity.

27. A system according to claim 19, wherein the voice service arrangement comprises:

- 10 - a voice page server for serving voice pages in the form of text with embedded voice markup tags; and
- a voice browser comprising:
 - a speech recognizer for carrying out speech recognition of user voice input received as voice signals;
 - 15 - a dialog manager for effecting dialog control on the basis of output from the speech recognizer and pages served by the voice page server; and
 - a text-to-speech converter operative to convert voice pages into voice output signals under the control of the dialog manager;

the voice browser being operatively disposed between the voice page server and the session

20 control means.

28. A system according to claim 19, wherein the service initiation means comprises means for transferring service contact data to equipment carried by the user, and means at the user equipment for using the contact data to contact the voice service arrangement over the

25 communication means.

29. A method according to claim 19, wherein the service initiation means comprises a receiving device in the vicinity of the entity, and means for transferring user contact data from user equipment to the receiving device, the receiving device being operative to pass

30 the contact data over the communication means to the voice service arrangement to enable the latter to contact the user equipment over a wireless connection.

30. A method according to claim 19, wherein the service initiation means comprises comparison means for determining and comparing the locations of the user and said entities, and means for initiating the voice service only when the user moves close to a said entity as determined by the comparison means.

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31. A system according to claim 19, wherein both the audio input and output means form part of the user equipment carried by the user.

32. A system according to claim 19, wherein the audio input means forms part of equipment carried by the user and the audio output means is located in the locality of said entity apart from the user equipment.

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33. A system according to claim 19, wherein both the audio input and output means are located in the locality of said entity apart from the user equipment.

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34. A system according to claim 19, wherein said audio output means comprises multiple sound output devices and means for controlling the sound output such that it appears to be originating from said local entity.

20 35. A system according to claim 34, wherein said multiple sound output devices are headphones worn by the user, the location of the voice service sound output in the audio field generated by the headphones being controlled to take account of the relative positions of the user and entity and rotations of the user's head.

25 36. A system according to claim 34, wherein said multiple sound output devices are loudspeakers associated with the locality of the entity rather than with the user and connected with the voice service through a communications infrastructure., the sound output from the loudspeakers being controlled in dependence on the relative positions of the user and entity.

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